

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph bridging pages 16 and 17 as follows:

As in the case of a shaft 60 shown in Fig. 6, a plurality of quench hardened sections 60a may be formed on an outer surface of the shaft 60 in the form of a plurality of circular patterns among indentations 60b. The quench hardened sections 50a, 60a can also be formed through use of the manufacturing apparatus such as that shown in Fig. 3. The area percentage of the quench hardened section on the sliding surfaces of the respective shafts 50, 60 described by reference to Figs. 5 and 6 preferably ranges from 20 to 80%, more preferably 50 to 80%, for the same reason as that provided previously.

On page 17, please amend the 1st full paragraph as follows:

When the foregoing bearing apparatus is used as a bearing of, e.g., an articulated arm involving turning action which can be seen in construction equipment, the lubricant flowing out of the porous bush 9 may move to one end of the bearing apparatus for reasons of the centrifugal force of the turning action or the inclination of the bearing apparatus attributable to the tilt of the hydraulic excavator 201. For this reason, as shown in Fig. 7, a quench hardened section 70a is formed into a lattice or mesh pattern, with indented portions 70b therebetween, thereby reducing unbalanced existence of the lubricant having flowed from the porous bush 9. The quench hardened section 70a may be formed into a mesh pattern so as to obliquely cut across the shaft 70 with reference to an axial direction thereof.

On page 17, please amend the 2nd full paragraph as follows:

As shown in Fig. 8, a quench hardened section 80a may be constituted of a helically-quench hardened section and a circularly-quench hardened section formed between portions of the quench hardened section. Indented portions 80b are disposed between the quench hardened portions. This embodiment can also yield the same effect as that yielded previously.

Please amend the paragraph bridging pages 17 and 18 as follows:

As shown in Fig. 9, a quench hardened section 90a may be constituted of a quench hardened section parallel to the axis of a shaft 90 and a circularly-quench hardened section formed between portions of the quench hardened section. Indented portions 90b are disposed adjacent the quench hardened sections This embodiment can also yield the same effect as that yielded previously.

On page 18, please amend the 1st full paragraph as follows:

Further, as shown in Fig. 10, a quench hardened section 100a can be formed such that one side of the quench hardened section with respect to a substantial center of a shaft 100 and the other side of the quench hardened section are the form of inverted helixes running in opposite directions. Indented portions 100b are disposed adjacent to the quench hardened sections. This embodiment can also lessen the degree of unbalanced presence of the lubricant within the bearing apparatus.

Please amend the paragraph bridging pages 18 and 19 as follows:

As shown in Fig. 11, a protruding quench hardened section 110c can be provided on an outer surface of a shaft 110 opposing the oil shielding members 12 press-fitted to both sides of the bush 9 by means of irradiation with a laser, irradiation with an electron beam, or induction hardening. Additionally, quench hardened portion 110a and indented portion 100b are disposed on shaft 110. According to the present embodiment, contact bearing pressure developing between the oil shielding members 12 and the shaft 110 is made uniform, thereby preventing leakage of oil, and abrasion of the shaft, which would otherwise be caused when the oil shielding members 12 bite gravel. Such a quench hardened sections 110c can be applied to the shafts having the quench hardened sections such as those shown in Figs. 5 through 10. The shape of the quench hardened sections 110c is not limited to a single ring shown in Fig. 11 but may be a plurality of rings or another shape. Further, the quench hardened sections 110c may be provided at positions where they oppose the dust seals 3 provided on the surface of the shaft.